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Valvular Heart Disease

PREDICTORS AND PROGNOSTIC SIGNIFICANCE OF ACUTE KIDNEY DYSFUNCTION IN PATIENTS WITH INFECTIVE ENDOCARDITIS

Poster Contributions

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Background: Renal dysfunction occurs in 1/3 of patients with infective endocarditis (IE) and is associated with increased mortality. Underlying sepsis and exposure to nephrotoxic agents may be contributory. We sought to identify independent predictors of acute kidney dysfunction (AKD) in this population.

Methods: We evaluated all adult inpatients (n=337) meeting Duke's criteria for definite IE admitted to our institution between 7/2007 and 12/2009. Patients with ESRD and AKD prior to admission were excluded. AKD was defined as the development of acute renal injury or failure, based on the RIFLE criteria. Logistic regression was used to identify independent predictors for AKD.

Results: 227 patients with definite IE were included, 64 (28%) of which developed AKD. Shock on admission, use of preadmission nephrotoxic agents, inpatient aminoglycoside (AG) use, S aureus infection and admission Cr were significantly associated with AKD on univariate analysis, but only inpatient AG use (OR 2.01 p 0.03), S aureus infection (OR 2.69 p 0.004) and admission Cr (OR 3.01 p 0.01) were independently associated with AKD on multivariable analysis. The use of contrast studies was not significantly associated with AKD. AKD was strongly associated with in-hospital death (n=12, OR 14.91 p 0.0006).

Conclusion: AKD occurs commonly in patients with IE and is associated with a poor prognosis. S aureus infection, inpatient AG use, and admission Cr are independent predictors of AKD in this population but contrast exposure is not.

Comparison of IE Patients with and without AKD

	AKD (n=64)	no AKD (n=163)	p value
Female (%)	24 (38%)	56 (34%)	0.77
Age (mean, SD)	62.2 (13.4)	59.2 (15.7)	0.15
Surgical treatment (%)	48 (75%)	125 (77%)	0.9
S aureus infection (%)	23 (36%)	29 (18%)	0.007
Admission Cr (mg/dl) (mean, SD)	1.13 (0.4)	1.00 (0.3)	0.004
Inpatient AG use (%)	38 (59%)	71 (44%)	0.03
Use of preadmission nephrotoxic meds (%)	42 (66%)	81 (50%)	0.04
Shock on admission (%)	7 (11%)	5 (3%)	0.048
Inpatient exposure to contrast (%)	54 (84%)	128 (79%)	0.42